Extension No MM-336
ESO No 197

1973

Farm Business Analysis Report

Dairy Summary By Herd Size

Department of Agricultural Economics and Rural Sociology
COOPERATIVE EXTENSION SERVICE
THE OHIO STATE UNIVERSITY
Columbus, Ohio

SUMMARIES AVAILABLE FOR 1973

TOTAL FARM SUMMARIES	ENTERPRISE SUMMARIES INCLUDED
Dairy	Dairy Milk
Dairy By Herd Size	
Swine	Farrow and Finish Finishing Only
Beef	Beef Feeding Beef Breeding
General Crop	Corn Soybeans Wheat Oats Corn Silage Alfalfa Hay Clover-Mixed Hay

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1973 OHIO FARM BUSINESS ANALYSIS SUMMARY

DAIRY FARMS BY SIZE OF HERD

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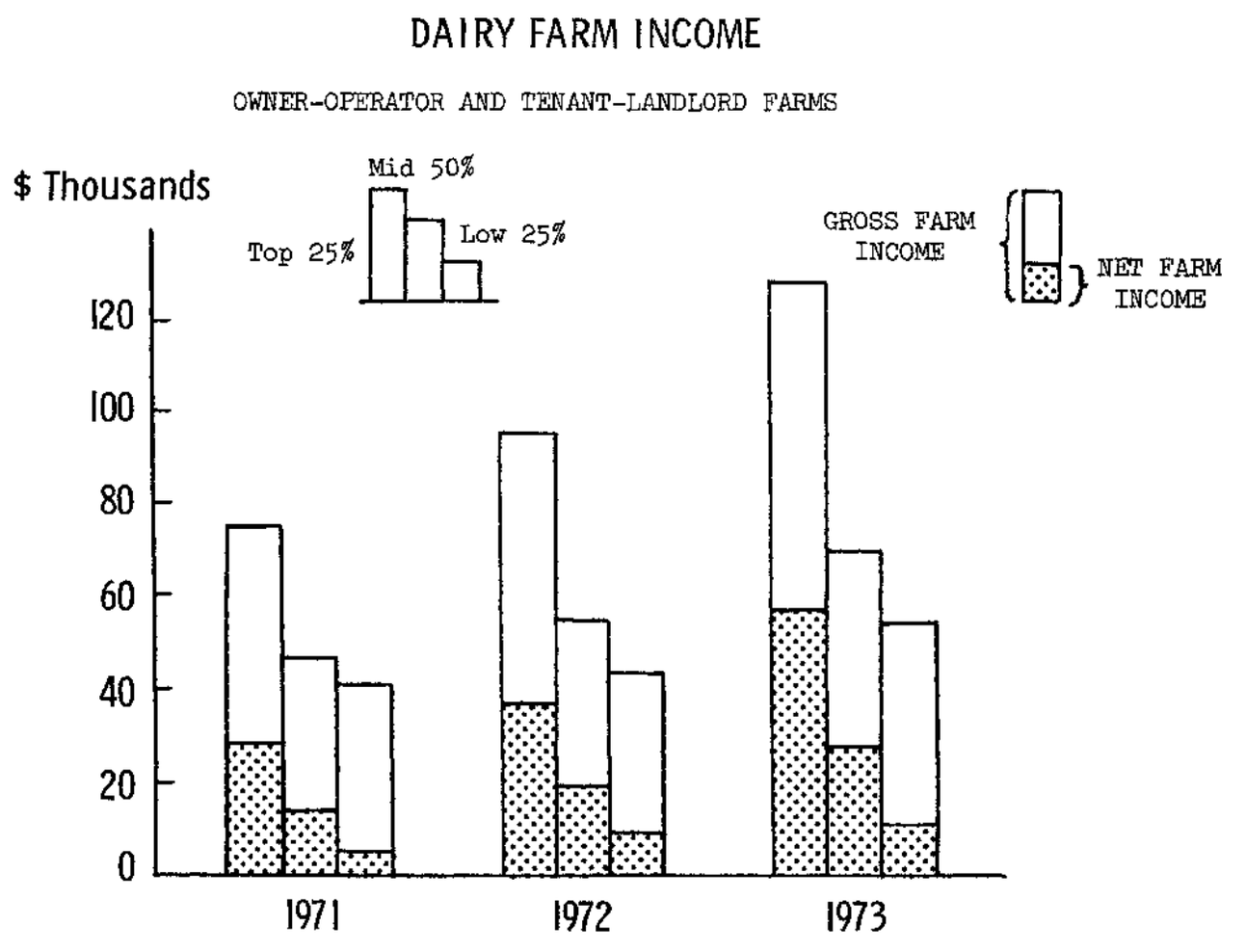
INTRODUCTION

This summary is designed to help dairy farmers improve their income. A farmer can compare his records with this summary and spot areas in his business which are strong, and areas that need improvement. Similarly, a farmer may compare this year's records with previous year's records in order to spot problems which may have developed over time.

The report summarizes information from records of 169 Ohio dairy farms by herd sizes of less than 40 cows, 40 to 79 cows, and 80 or more cows. The summaries are divided into three groups composed of the upper 25 percent, middle 50 percent, and lower 25 percent of the

FIGURE 1



farms by return per hour to unpaid labor and management for the total farm. The 169 dairy farms included in this summary are the same farms which were used in the Dairy Summary, Extension No. MM-332.

FARM INCOME COMPARISONS

Figure 1 describes the farm income situation for 1971, 1972 and 1973. While all the same farms were not included in all three years, the graph does demonstrate the trend of increased profitability of dairy farms in recent years.

Table 1, shows that the physical measures of size were similar for farms summarized in 1971 and 1972. The 1973 figures were also similar for the number of men per farm and number of cows per farm. However, in 1973 gross income and total investment were 20 to 30 percent greater than in 1972.

Most measures of income for 1973 increased dramatically over 1972. The largest increases occurred in the 80 or more cow size. However, net cash income increased only modestly. This emphasizes the importance of price increases built into the substantial inventory changes recorded for 1973. Farmers need to be cautious in planning investments, if much of their net return is based on large increases in inventory values.

FINANCIAL SUMMARY OF FARMS BY HERD SIZE

Table 2, summarizes income data for the three herd sizes. As expected, gross income, total farm expense, and

TABLE 1

SIZE AND INCOME OF FARMS BY HERD SIZE
OHIO, 1971-73

	SIZE OF FARM				INCOME PER FARM			
	Gross Income	Total Investment	Number of Men	Number of Cows	Net Cash Income	Net Farm Income	Family Labor and Management Income	Return t Investme
Unit	$	$	M.Y.E.*	Head	$	$	$	$
Less Than 40 Cows								
1971	36,703	94,662	1.59	29.7	11,516	11,992	8,029	4,380
1972	35,214	97,151	1.43	31.9	10,384	12,703	8,901	4,973
1973	43,114	119,376	1.50	31.8	11,986	17,078	11,953	7,642
40-79 Cows								
1971	52,166	132,394	2.02	54.2	15,353	15,601	9,968	7,038
1972	61,304	153,723	2.04	54.3	17,362	21,996	15,543	13,123
1973	77,634	184,793	2.15	55.9	19,334	30,794	22,733	20,242
80 Or More Cows								
1971	108,452	255,389	3.36	106.4	26,324	28,554	17,556	19,19
1972	119,613	262,600	3.26	112.1	26,392	35,017	24,511	25,187
1973	158,687	338,776	3.45	115.1	25,442	55,266	41,854	45,833

* M.Y.E.= Man Year Equivalent. One M.Y.E. is defined as 3000 hours.

TABLE 2

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
BY HERD SIZE

	Unit	Less Than 40 Cows	40-79 Cows	80 Or More Cows	All
INCOME					
Cash Receipts	$	33,889	58,550	116,544	60,570
Capital Gains and Losses	$	2,750	5,128	10,184	5,234
Inventory Changes	$	6,743	14,140	33,038	14,995
Feeder Livestock Purchase	$	-268	-184	-1,079	-358
Gross Income	$	43,114	77,634	158,687	80,441
EXPENSES					
Cash Expenses	$	21,903	39,216	91,102	42,485
Depreciation	$	4,401	7,808	13,398	7,686
Interest Not Charged	$	5,125	8,061	13,412	8,044
Unpaid Operator & Family Labor	$	11,472	13,579	16,348	13,389
Feeder Livestock Purchase	$	-268	-184	-1,079	-358
Total Farm Expense	$	42,633	68,480	133,181	71,246
MANAGEMENT INCOME & PROFIT					
Total	$	481	9,154	25,506	9,195
As a Percent of Gross Income	%	1.1	11.8	16.1	11.4
UNPAID OPERATOR & FAMILY LABOR					
Total	$	11,472	13,579	16,348	13,389
As a Percent of Gross Income	%	26.6	17.5	10.3	16.7
OVERHEAD COSTS					
Total	$	13,798	22,947	42,385	23,352
As a Percent of Gross Income	%	32.0	29.5	26.7	29.0
VARIABLE COSTS					
Total	$	17,364	31,954	74,448	34,505
As a Percent of Gross Income	%	40.3	41.2	46.9	42.9
NET CASH INCOME	$	11,986	19,334	25,442	18,085
NET FARM INCOME	$	17,078	30,794	55,266	30,628
INVESTMENT					
Total	$	119,376	184,793	338,776	190,177
Return to Investment	$	7,642	20,242	45,833	20,605
Profit Margin (Percent of Gross)	%	17.7	26.1	28.9	25.6
Turnover (Gross Per $1 Invested)	$	.36	.42	.47	.42
Return on Investment (Percent)	%	6.4	11.0	13.5	10.8
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	11,953	22,733	41,854	22,584
Per Hour	$	3.15	4.92	8.03	4.89
NUMBER OF MEN	M.Y.E.	1.50	2.15	3.45	2.17
NUMBER OF COWS	Hd.	31.8	55.9	115.1	58.3
NUMBER OF FARMS	No.	52	89	28	169

total investment are greater with larger herd size. In addition, larger farms generated more net income. Both net farm income and family labor and management income were greater with larger herd size. Returns to labor per hour also increased with herd size as family labor and management income per hour ranged from an average of $3.15 for the smaller herds, to $8.03 for the largest herds. Return on investment also increased with herd size with an average of 6.4 percent on the small herds, 11.0 percent on the 40 to 79 cow herds and 13.5 percent on the largest herds. Thus, not only did the larger herds generate more volume, they achieved a greater return to labor and management (Family Labor and Management Income), to capital and management (Return to Investment), and to all unpaid factors of production (Net Farm Income).

However, a study of the comparisons of farms within each size group (pp. 8-13) shows that size alone does not mean profitability. Smaller herds with good management can still generate a good income. Larger herds with poor management can still be very unprofitable.

MILK PRODUCTION COST

One of the more easily recognized measures of financial health for a dairy operation is to compare the cost of producing milk with the price being received for milk. Table 3 compares cost and price for the upper and lower 25 percent of the farms for the past four years. Both total costs of production and price received have shown a strong increase over the period. The upper 25 percent of the farms have continually made a profit because the price they received for their milk has been higher than their total cost to produce it. The opposite has held true for the lower 25 percent of the farms, resulting in a loss for this group.

Figure 2 shows the distribution of the milk production costs among feed, labor, and other costs. In prior years, feed costs accounted for about one-half of the total cost of producing milk while labor and all other cash and non-cash expenses made up the rest. In 1973, feed costs represented about 56% of total costs. Thus, as feed prices increased over the past few years, there has been

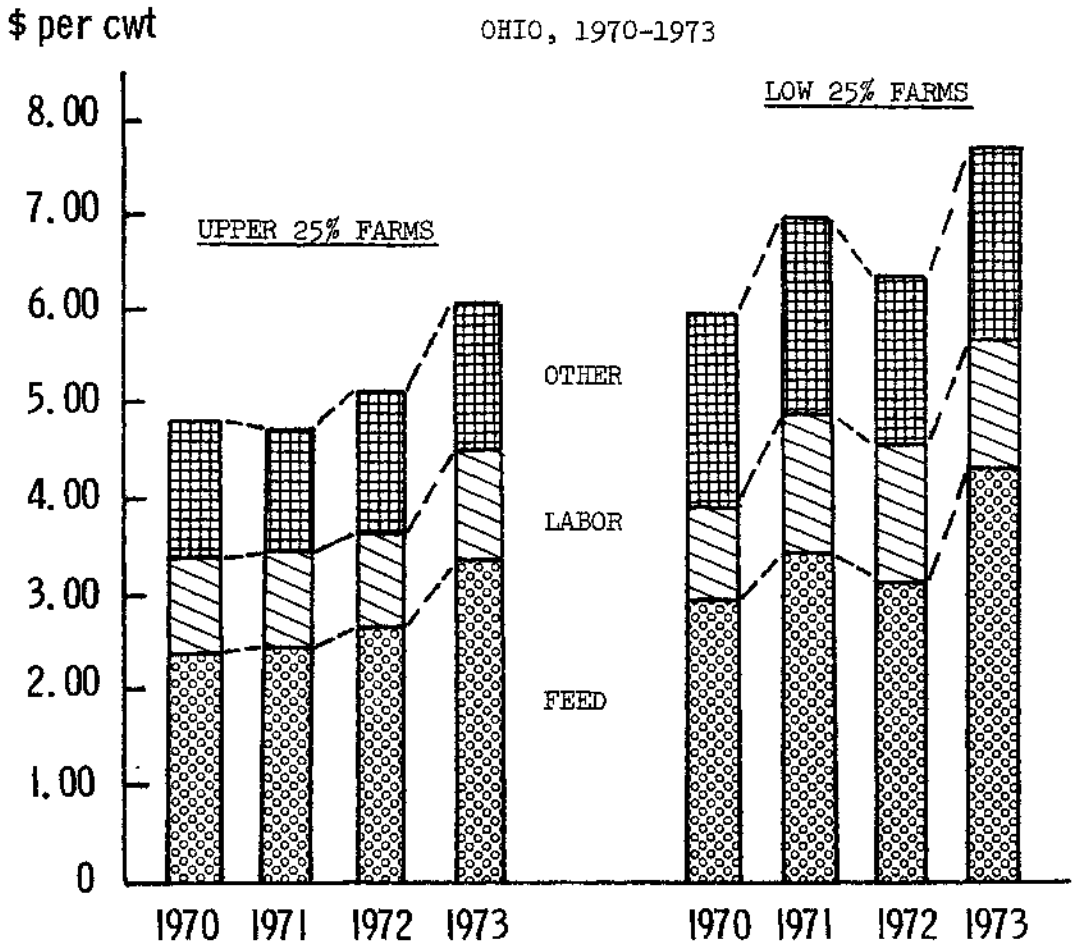
TABLE 3

COMPARISON OF PRICE RECEIVED WITH TOTAL COST OF PRODUCING MILK, OHIO, 1970-1973

	Upper 25% Farms			Lower 25% Farms		
	Price Received	Cost of Production	Profit (Loss)	Price Received	Cost of Production	Profit (Loss)
Unit	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt
1970	5.38	4.81	.57	5.20	5.99	(.79)
1971	5.64	4.73	.91	5.40	6.96	(1.56)
1972	5.70	5.12	.58	5.57	6.37	(.80)
1973	6.66	6.02	.64	6.36	7.71	(1.35)

FIGURE 3

MILK PRODUCTION COST



a marked increase in the cost of producing milk.

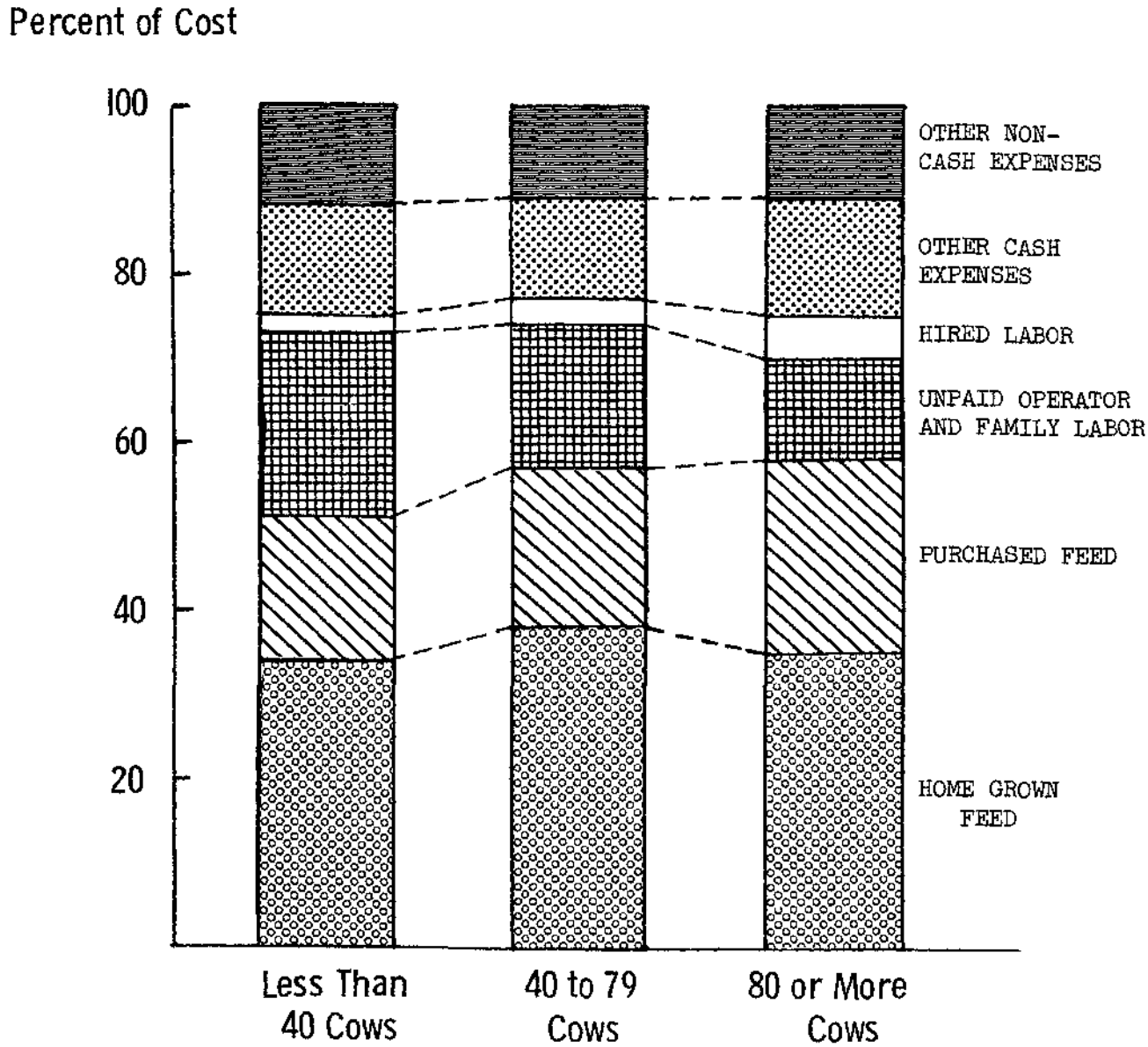
The distribution of costs illustrates that the relative importance of the various ingredients in producing milk differ by herd size (Figure 3). As herd size increased, the portion of unpaid family labor decreased while hired labor increased. The total labor costs were a smaller proportion of all costs for larger herds because the larger herds used less labor per cwt of milk produced. However, the percentage of costs for purchased and homegrown feed were greater for the larger herds. Other cash and non-cash expenses were similar for all herd sizes. Overall, the larger herds had a larger portion of their milk production cost as cash expenses which must be covered to stay in business.

Figure 4 shows the costs of milk production per cwt for the three income levels of each herd size. The graph shows large differences between averages of the most efficient and least efficient producers within each herd size. The difference was $1.73 for herds of less than 40 cows, $1.75 for herds of 40-79 cows, and $1.52 for herds of 80 or more cows. The difference within herd sizes was much greater than differences between herd sizes. The farms in the top 25 percent of each herd size differed by a maximum of $.23, the middle 50 percent by $.82, and the low 25 percent by $.01. Thus, it appears that overall efficiency was more important in keeping costs of production low than were economies of size.

FIGURE 4

PERCENT OF MILK PRODUCTION COST BY SIZE OF HERD

OHIO, 1973



DIFFERENCES WITHIN HERD SIZE

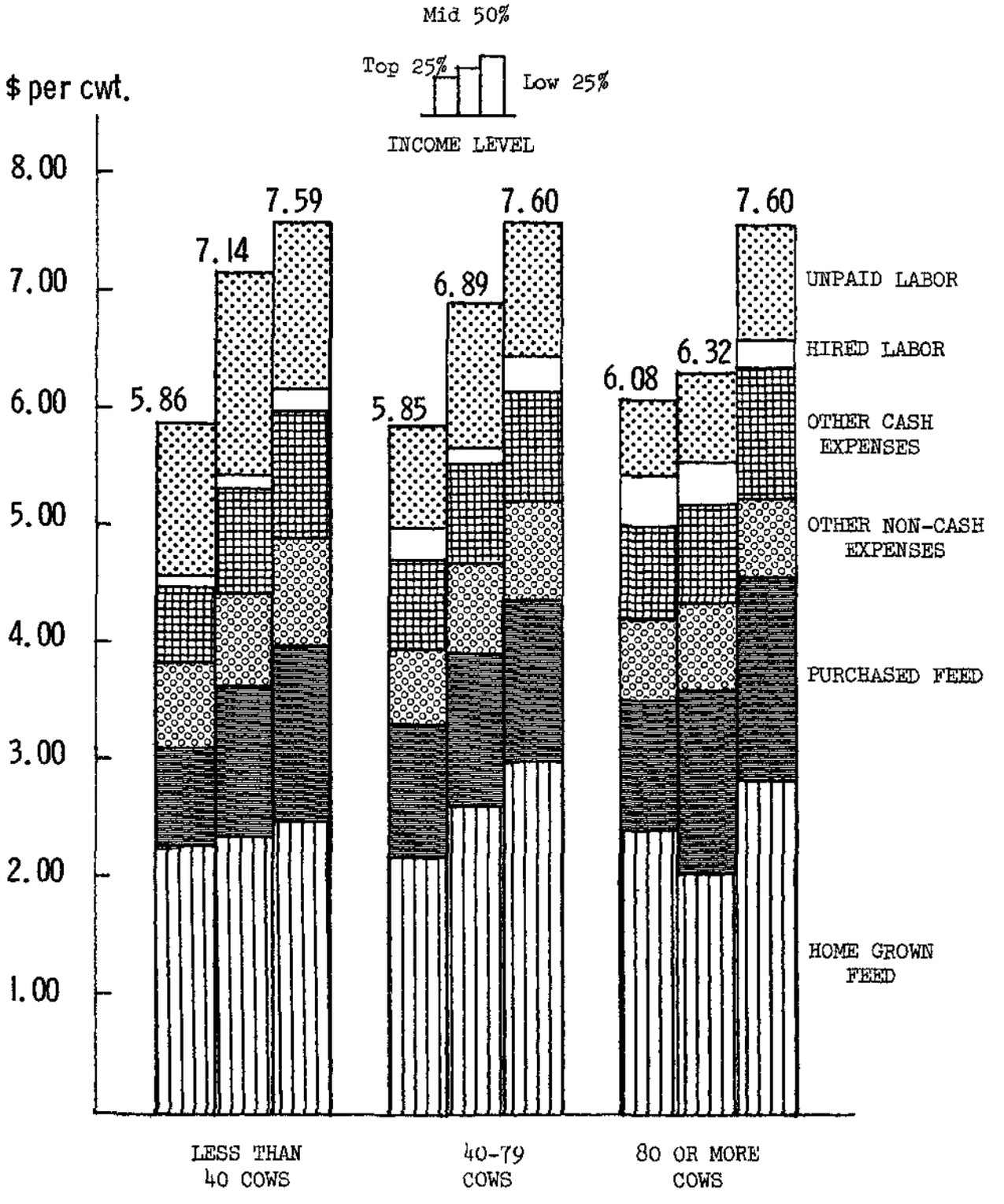
The tables on pages 8-13 have selected data for all farms within each herd size ranked by family labor and management income per hour. All factors, both for the total farm and for the dairy and milk enterprise relate to this total farm income ranking.

These tables reveal the large variations that exist even among farms having similar size herds. This illustrates further the importance of an individual farmer having his own summary, so he can evaluate his particular situation and determine what is responsible for the success or failure of his operation.

FIGURE 5

COST OF PRODUCING MILK

OHIO, 1973



1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
LESS THAN 40 COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
INCOME					
Cash Receipts	$	38,491	33,896	29,272	____
Capital Gains and Losses	$	4,388	2,617	1,378	____
Inventory Changes	$	13,611	5,248	2,866	____
Feeder Livestock Purchase	$	-300	-385		____
Gross Farm Income	$	56,190	41,376	33,516	____
EXPENSES					
Cash Expenses	$	21,661	21,156	23,640	____
Depreciation	$	4,667	4,386	4,164	____
Interest Not Charged	$	5,459	4,983	5,076	____
Unpaid Operator & Family Labor	$	12,539	12,135	9,080	____
Feeder Livestock Purchase	$	-300	-385		____
Total Farm Expense	$	44,026	42,275	41,960	____
MANAGEMENT INCOME & PROFIT					
Total	$	12,164	-899	-8,444	____
As a Percent of Gross Income	%	21.6	-2.1	-25.2	____
UNPAID OPERATOR & FAMILY LABOR					
Total	$	12,539	12,135	9,080	____
As a Percent of Gross Income	%	22.3	29.3	27.1	____
OVERHEAD COSTS					
Total	$	14,379	13,495	13,824	____
As a Percent of Gross Income	%	25.6	32.6	41.2	____
VARIABLE COSTS					
Total	$	17,108	16,645	19,056	____
As a Percent of Gross Income	%	30.5	40.2	56.9	____
NET CASH INCOME	$	16,830	12,740	5,632	____
NET FARM INCOME	$	30,162	16,219	5,712	____
INVESTMENT					
Total	$	108,596	121,211	126,485	____
Return to Investment	$	18,680	6,372	-855	____
Profit Margin (Percent of Gross)	%	33.2	15.4	-2.6	____
Turnover (Gross Per $1 Invested)	$	.52	.34	.27	____
Return on Investment (Percent)	%	17.2	5.3	-.7	____
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	24,703	11,236	636	____
Per Hour	$	6.60	2.87	.18	____
NUMBER OF FARMS	No.	13	26	13	

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
LESS THAN 40 COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	1.48	1.47	1.58	
Number of Cows	Hd.	32.5	31.7	31.4	
Pounds of 3.5 Milk Sold	Lb.	440,711	418,175	389,419	
Total Crop Acres	A.	150	134	135	
Acres Corn & Corn Silage	A.	57	45	43	
Soybean Acres	A.	8	16	11	
Alfalfa & Clover-Mixed Hay	A.	11 & 25	6 & 28	7 & 38	
Capital Investment	$	108,596	121,211	126,485	
Gross Income	$	56,190	41,376	33,516	
Value of All Crops	$	21,864	16,527	13,792	
Value of Net Livestock Increase	$	47,244	34,752	31,199	
EFFICIENCY FACTORS					
Gross Income Per Man	$	37,966	28,147	21,213	
Total Labor & Management Income Per Full Time Operator	$	22,873	11,465	583	
Crop Production Value Per Acre	$	146	123	102	
Machinery Investment Per Crop Acre	$	92	131	113	
Machinery Cost Per Crop Acre	$	44	53	49	
Crop Acres Per Man	A.	101	91	85	
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	.83	1.26	1.49	
Hired Labor	$	.06	.09	.17	
Paid Interest	$	.06	.22	.22	
Breeding Fees	$	.08	.10	.15	
Other Cash	$	.50	.58	.72	
Total Cash Expenses	$	1.53	2.25	2.75	
Home-grown Feeds	$	2.27	2.35	2.48	
Depreciation	$	.32	.40	.41	
Unpaid Labor	$	1.33	1.72	1.44	
Interest Not Charged	$	.41	.42	.51	
Total Non-Cash Expenses	$	2.06	2.54	2.36	
Total Cost of Milk Sold	$	5.86	7.14	7.59	
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	6.62	6.61	6.47	
Pounds of 3.5 Milk Sold Per Cow	Lb.	13,560	13,192	12,402	
Dairy Returns Per $1 Feed Fed	$	2.13	1.83	1.63	
Pounds of 3.5 Milk Sold Per Man					
Total Farm	Lb.	297,778	284,473	246,468	
Enterprise Only	Lb.	436,348	398,262	354,017	
Number of Cows Per Man					
Total Farm	Hd.	22	22	20	
Enterprise Only	Hd.	32	30	29	
Value of Dairy Increase	$	15,316	6,313	5,376	
Value of Milk Sold	$	29,195	27,631	25,201	
Total Value of Dairy Production	$	44,511	33,944	30,577	
alue of Production Per Cow	$	1,369	1,071	974	
Value of Milk Sold Per Cow	$	898	872	803	
Feed Cost for Milk Per Cow	$	420	477	493	
Value of Milk Over Feed Cost Per Cow	$	478	395	310	
Unpaid Labor and Mgmt. Income Per Cow	$	431	191	47	

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
40-79 COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
INCOME					
Cash Receipts	$	65,796	54,848	58,878	____
Capital Gains and Losses	$	6,684	4,514	4,829	____
Inventory Changes	$	23,916	14,944	2,720	____
Feeder Livestock Purchase	$	-66	-46	-586	____
Gross Income	$	96,330	74,260	65,841	____
EXPENSES					
Cash Expenses	$	45,145	35,011	41,889	____
Depreciation	$	7,702	7,307	8,939	____
Interest Not Charged	$	8,290	8,115	7,725	____
Unpaid Operator & Family Labor	$	12,217	14,620	12,811	____
Feeder Livestock Purchase	$	-66	-46	-586	____
Total Farm Expense	$	73,288	65,007	70,778	____
MANAGEMENT INCOME & PROFIT					
Total	$	23,042	9,253	-4,937	____
As a Percent of Gross Income	%	23.9	12.5	-7.5	____
UNPAID OPERATOR & FAMILY LABOR					
Total	$	12,217	14,620	12,811	____
As a Percent of Gross Income	%	12.7	19.7	19.5	____
OVERHEAD COSTS					
Total	$	23,834	21,627	24,760	____
As a Percent of Gross Income	%	24.7	29.1	37.6	____
VARIABLE COSTS					
Total	$	37,237	28,758	33,208	____
As a Percent of Gross Income	%	38.7	38.7	50.4	____
NET CASH INCOME	$	20,651	19,837	16,989	____
NET FARM INCOME	$	43,549	31,988	15,599	____
INVESTMENT					
Total	$	196,633	175,824	191,297	____
Return to Investment	$	34,840	19,803	6,540	____
Profit Margin (Percent of Gross)	%	36.2	26.7	9.9	____
Turnover (Gross Per $1 Invested)	$	.49	.42	.34	____
Return on Investment (Percent)	%	17.7	11.3	3.4	____
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	35,259	23,873	7,874	____
Per Hour	$	9.41	4.83	1.63	____
NUMBER OF FARMS	No.	22	45	22	

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
40-79 COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	2.15	2.04	2.37	____
Number of Cows	Hd.	59.5	52.9	58.4	____
Pounds of 3.5 Milk Sold	Lb.	811,517	683,020	723,600	____
Total Crop Acres	A.	224	200	224	____
Acres Corn & Corn Silage	A.	94	89	83	____
Soybean Acres	A.	19	9	14	____
Alfalfa & Clover-Mixed Hay	A.	15 & 34	13 & 27	9 & 37	____ & ____
Capital Investment	$	196,633	175,824	191,297	____
Gross Income	$	96,330	74,260	65,841	____
Value of All Crops	$	35,368	28,980	26,091	____
Value of Net Livestock Increase	$	77,915	60,847	58,095	____
EFFICIENCY FACTORS					
Gross Income Per Man	$	44,805	36,402	27,781	____
Total Labor & Management Income Per Full Time Operator	$	32,952	16,931	6,249	____
Crop Production Value Per Acre	$	158	145	116	____
Machinery Investment Per Crop Acre	$	101	128	138	____
Machinery Cost Per Crop Acre	$	46	52	60	____
Crop Acres Per Man	A.	104	98	95	____
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	1.12	1.29	1.39	____
Hired Labor	$	.29	.12	.28	____
Paid Interest	$	.12	.12	.19	____
Breeding Fees	$	.12	.10	.12	____
Other Cash	$	.52	.62	.63	____
Total Cash Expenses	$	2.17	2.25	2.61	____
Home-grown Feeds	$	2.18	2.61	2.99	____
Depreciation	$	.28	.37	.47	____
Unpaid Labor	$	.86	1.24	1.16	____
Interest Not Charged	$	.36	.42	.37	____
Total Non-Cash Expenses	$	1.50	2.03	2.00	____
Total Cost of Milk Sold	$	5.85	6.89	7.60	____
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	6.57	6.67	6.66	____
Pounds of 3.5 Milk Sold Per Cow	Lb.	13,639	12,912	12,390	____
Dairy Returns Per $1 Feed Fed	$	1.99	1.70	1.51	____
Pounds of 3.5 Milk Sold Per Man					
Total Farm	Lb.	377,450	334,814	305,316	____
Enterprise Only	Lb.	520,203	471,048	420,698	____
Number of Cows Per Man					
Total Farm	Hd.	28	26	25	____
Enterprise Only	Hd.	38	35	34	____
Value of Dairy Increase	$	20,978	12,212	8,049	____
Value of Milk Sold	$	53,334	45,522	48,157	____
Total Value of Dairy Production	$	74,312	57,734	56,206	____
Value of Production Per Cow	$	1,249	1,091	962	____
Value of Milk Sold Per Cow	$	896	861	825	____
Feed Cost for Milk Per Cow	$	450	505	544	____
Value of Milk Over Feed Cost Per Cow	$	446	356	281	____
Unpaid Labor and Mgmt. Income Per Cow	$	302	165	30	____

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
80 OR MORE COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
INCOME					
Cash Receipts	$	153,891	102,166	107,951	____
Capital Gains and Losses	$	19,244	7,254	6,983	____
Inventory Changes	$	67,091	27,789	9,483	____
Feeder Livestock Purchase	$	-3,437		-878	____
Gross Farm Income	$	236,789	137,209	123,539	____
EXPENSES					
Cash Expenses	$	119,099	76,433	92,442	____
Depreciation	$	18,026	11,857	11,850	____
Interest Not Charged	$	18,020	12,734	10,159	____
Unpaid Operator & Family Labor	$	16,653	14,776	19,188	____
Feeder Livestock Purchase	$	-3,437		-878	____
Total Farm Expense	$	168,361	115,800	132,761	____
MANAGEMENT INCOME & PROFIT					
Total	$	68,428	21,409	-9,222	____
As a Percent of Gross Income	%	28.9	15.6	-7.4	____
UNPAID OPERATOR & FAMILY LABOR					
Total	$	16,653	14,776	19,188	____
As a Percent of Gross Income	%	7.0	10.8	15.5	____
OVERHEAD COSTS					
Total	$	56,585	36,825	39,304	____
As a Percent of Gross Income	%	23.9	26.8	31.8	____
VARIABLE COSTS					
Total	$	95,123	64,199	74,269	____
As a Percent of Gross Income	%	40.2	46.8	60.1	____
NET CASH INCOME	$	34,792	25,733	15,509	____
NET FARM INCOME	$	103,101	48,919	20,125	____
INVESTMENT					
Total	$	418,493	311,850	312,910	____
Return to Investment	$	93,537	40,120	9,553	____
Profit Margin (Percent of Gross)	%	39.5	29.2	7.7	____
Turnover (Gross Per $1 Invested)	$	.57	.44	.39	____
Return on Investment (Percent)	%	22.4	12.9	3.1	____
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	85,081	36,185	9,966	____
Per Hour	$	20.62	7.18	1.50	____
NUMBER OF FARMS	No.	7	14	7	

1973 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
80 OR MORE COWS

	Unit	Upper 25%	Middle 50%	Lower 25%	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	4.10	3.16	3.39	
Number of Cows	Hd.	134.9	108.5	108.3	
Pounds of 3.5 Milk Sold	Lb.	1,924,870	1,365,066	1,371,431	
Total Crop Acres	A.	513	290	338	
Acres Corn & Corn Silage	A.	261	139	147	
Soybean Acres	A.	90	4		
Alfalfa & Clover-Mixed Hay	A.	18 & 23	10 & 41	18 & 36	&
Capital Investment	$	418,493	311,850	312,910	
Gross Income	$	236,789	137,209	123,539	
Value of All Crops	$	96,189	43,671	45,476	
Value of Net Livestock Increase	$	176,857	118,423	111,879	
EFFICIENCY FACTORS					
Gross Income Per Man	$	57,753	43,421	36,442	
Total Labor & Management Income Per Full-time Operator	$	70,315	24,955	5,329	
Crop Production Value Per Acre	$	188	151	135	
Machinery Investment Per Crop Acre	$	101	140	127	
Machinery Cost Per Crop Acre	$	51	59	59	
Crop Acres Per Man	A.	125	92	100	
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	1.10	1.56	1.74	
Hired Labor	$	.46	.35	.25	
Paid Interest	$	.07	.18	.29	
Other Cash	$	.61	.57	.68	
Breeding Fees	$	.10	.10	.14	
Total Cash Expenses	$	2.34	2.76	3.10	
Home-grown Feeds	$	2.41	2.04	2.84	
Depreciation	$	.38	.35	.33	
Unpaid Labor	$	.62	.77	.99	
Interest Not Charged	$	.33	.40	.34	
Total Non-Cash Expenses	$	1.33	1.52	1.66	
Total Cost of Milk Sold	$	6.08	6.32	7.60	
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	6.67	6.61	6.02	
Pounds of 3.5 Milk Sold Per Cow	Lb.	14,269	12,581	12,663	
Dairy Returns Per $1 Feed Fed	$	1.90	1.84	1.32	
Pounds of 3.5 Milk Sold Per Man					
Total Farm	Lb.	469,480	431,983	404,552	
Enterprise Only	Lb.	639,492	548,219	533,631	
Number of Cows Per Man					
Total Farm	Hd.	33	34	32	
Enterprise Only	Hd.	45	44	42	
Value of Dairy Increase	$	41,316	24,079	15,357	
Value of Milk Sold	$	128,316	90,210	82,600	
Total Value of Dairy Production	$	169,632	114,289	97,957	
alue of Production Per Cow	$	1,257	1,053	904	
Value of Milk Sold Per Cow	$	951	831	763	
Feed Cost for Milk Per Cow	$	502	453	579	
Value of Milk Over Feed Cost Per Cow	$	449	378	184	
Unpaid Labor and Mgmt. Income Per Cow	$	227	168	-89	

GLOSSARY OF SELECTED TERMS*

GROSS FARM INCOME - is the sum of all cash receipts plus increases in inventory and capital gains less decreases in inventory, capital losses, and feeder livestock purchases. Feeder livestock purchases are deducted to reflect on farm production.

INTEREST NOT CHARGED - represents an estimated charge for equity capital. It is determined by taking six percent of total investment and subtracting the amount of interest paid during the year. This calculation makes a similar charge for the total investment of each farm business.

UNPAID OPERATOR & FAMILY LABOR - is the wage charge for the operator and unpaid family labor using the time worked and rates per hour estimated by the farm operator.

TOTAL FARM EXPENSE - is the sum of all cash and non-cash expense for the farm less the cost of purchased feeder livestock. Non-cash expense includes depreciation, interest not charged and unpaid operator and family labor charge.

MANAGEMENT INCOME & PROFIT - equals Gross Income minus Total Farm Expense. This represents the return to management income and profit after all cash and non-cash expenses are deducted.

UNPAID LABOR & MANAGEMENT INCOME - equals Management Income and Profit plus Unpaid Operator and Family Labor. This represents the return to the operator and his family for their unpaid labor, management and profit.

NET FARM INCOME - equals Unpaid Labor and Management Income plus Interest Not Charged. This represents the return to the operator for equity capital, unpaid labor, management and profit.

RETURN TO INVESTMENT - equals Management Income and Profit plus paid and unpaid interest. Paid and unpaid interest equals six percent of Total Investment. This represents the return to all capital, owned and borrowed, plus management and profit. This return times 100 divided by Total Investment gives Percent Return On Investment.

OVERHEAD COSTS - is the sum of depreciation, building repairs, interest paid, property taxes, cash rent, insurance and interest not charged. These represent costs that are essentially fixed and must be recovered regardless of the level of production.

VARIABLE COSTS - is the sum of all cash expenses other than those included in Overhead Costs. These costs vary with the level of production.

NUMBER OF MAN-YEAR EQUIVALENTS - represents the number of full-time man equivalents used on the farm for the entire year. Family labor is adjusted to a man-equivalent basis. One man-year equivalent is 3,000 hours.

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* A complete listing of calculations is contained in occasional paper #49, "A Guide To Interpretation of the Computer Printout".

VALUE OF ALL CROPS - represents all crop production valued at market price (not necessarily sold) plus government crop payments. Value of pasture is not included.

VALUE OF NET LIVESTOCK INCREASE - is the net value of livestock and livestock products produced during the year. This includes breeding fees, livestock products and livestock sold less value of livestock purchased during the year plus or minus changes in livestock inventory.

RETURN PER $ FEED FED TO ALL LIVESTOCK ENTERPRISES - equals the Value of Net Livestock Increase divided by the Total Value of Feed Fed to All Livestock. The returns per dollar of feed fed should pay for the feed, labor, overhead on buildings and equipment required by livestock, other production costs, and provide a profit.

MACHINERY COST PER CROP ACRE - is the sum of fuel, oil, grease, repairs, and machine hire expenditures plus charges for depreciation and investment, less custom work receipts divided by acres of cropland.

PROFIT MARGIN RATIO - equals Management Income and Profit plus paid and unpaid interest divided by gross income. This ratio shows the dollars of profit and interest received from each dollar of gross income.

TURNOVER RATIO - equals Gross Income divided by Total Investment. This ratio is the same as Gross Income Per $1,000 Invested figure, but is given as a decimal figure rather than a return per $1,000. It gives the dollars of gross income received during the year for each dollar of investment.

RETURN ON INVESTMENT RATIO - equals Management Income and Profit plus paid and unpaid interest divided by Total Investment. This ratio is the same as Percent Return On Investment, but is stated as a decimal rather than a percentage. It gives the dollars of profit and interest received during the year for each dollar of investment.

SAMPLE POPULATION

The 169 owner-operator and tenant-landlord dairy farm records summarized in this report are part of the 595 farm records of all types submitted by Ohio farmers to Ohio State University for analysis in 1973. Not all farm records were complete and accurate enough to be used in the summaries.

July, 1974

COMPARE YOURSELF TO OHIO'S TOP DAIRYMEN

Enter performance records from your farm to compare with the upper 25% of similar sized herds from the 1973 Ohio Farm Business Analysis.

	Unit	My Farm	Herd Size: 39 or Less	Herd Size: 40-79	Herd Size: 80+	Projection for next yr.
Am I Fully Employed?						
1. Cows Per Man - Total farm	Hd.		22	28	33	
- Enterprise	Hd.		32	38	45	
2. Lbs. 3.5 milk per man - Farm	Lb.		300,000	380,000	470,000	
- Enterprise	Lb.		440,000	520,000	640,000	
3. Crop Acres Per Man	A.		101	104	125	
How Well Do My Cows Perform?						
4. Lbs. 3.5 Milk Per Cow	Lb.		13,600	13,600	14,300	
5. Value of Milk Sold Per Cow	$		898	896	951	
6. Dairy Returns Per $1 Feed Fed	$		2.13	1.99	1.90	
7. Milk Value Over Feed Cost/Cow	$		478	446	449	
8. Value of Milk Per Cwt	$		6.62	6.57	6.67	
9. Cost of Milk Production Per Cwt	$		5.86	5.85	6.08	
How Well Do My Crops Perform?						
10. Crop Production Value Per Acre	$		146	158	188	
11. Machinery Investment Per Crop Acre	$		92	101	101	
12. Machinery Cost Per Crop Acre	$		44	46	51	
How Sound Is My Operation Financially?						
13. Gross Income Per Man	$		38,000	45,000	58,000	
14. Overhead Costs As A % of Gross	%		26	25	24	
15. Profit Margin	%		33	36	40	
16. Turnover	$/$		.52	.49	.57	
17. Return On Investment	%		17	18	22	